Juniperus erythrocarpa / Canotia holocantha Woodland

COMMON NAME	Redberry juniper—Canotia Woodland
SYNONYM	1122.41 in Reichenbacher, 1983; *Juniperus monosperma*
TNC SYSTEM	Terrestrial
PHYSIOGNOMIC CLASS	Woodland
PHYSIOGNOMIC SUBCLASS	Evergreen woodland
PHYSIOGNOMIC GROUP	Temperate or subpolar needle-leaved woodland
FORMATION	Rounded-crowned temperate or subpolar needle-leaved woodland
ALLIANCE	*Juniperus erythrocarpa* Woodland Alliance

CLASSIFICATION CONFIDENCE LEVEL 3

RANGE
Central Arizona.

Tuzigoot National Monument
This association occupies the mesa tops that surround the Monument. It also occurs on the limestone bluffs on the east and north of the Monument.

ENVIRONMENTAL DESCRIPTION
This association appears on dissected elevated plains, eroding plains of valley fill alluvia, and on steep erosional hills. Soils display a thermic temperature regime.

Tuzigoot National Monument
The *Juniperus erythrocarpa/Canotia holocantha* association occurs on the midslopes of the limestone bluffs, on shallow, rapidly-drained, sandy loam drainage ways. This association is found on rapidly-drained, steep (58 degrees) limestone bluffs that receive full sun.

USFWS WETLAND SYSTEM Not applicable

MOST ABUNDANT SPECIES
Globally

Strata	Species
Tree canopy	*Juniperus erythrocarpa*, *Juniperus osteosperma*
Shrub	*Canotia holocantha*, *Quercus turbinella*, *Nolina microcarpa*, *Berberis haematocarpa*, *Berberis fremontii*, *Prosopis velutina*, *Yucca baccata*, *Yucca elata*, *Gutierrezia sarothrae*
Herbaceous	*Aristida* spp., *Bouteloua curtipendula*, *Bouteloua eriopoda*, *Schizachyrium scoparium*, *Hilaria belangerii*, *Muhlenbergia porteri*

Tuzigoot National Monument

Strata	Species
Tree canopy	*Juniperus erythrocarpa*
Shrub	*Canotia holocantha*, *Acacia greggii*, *Mahonia trifoliata*, *Gutierrezia sarothrae*, *Yucca elata*, *Krameria parvifolia*, *Ziziphus obtusifolia*, *Prosopis velutina*, *Celtis pallida*, *Ephedra viridis*, *Parthenium incanum*, *Eurotia lanata*
Herbaceous	*Aristida purpurea*, *Bouteloua curtipendula*, *Sphaeralcea* spp., *Bromus rubens*

DIAGNOSTIC SPECIES
Globally
Juniperus erythrocarpa, Canotia holocantha

Tuzigoot National Monument
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VEGETATION DESCRIPTION
Globally
Information is not available.

Tuzigoot National Monument
The *Juniperus erythrocarpa/Canotia holocantha* association occupies slopes and portions of the mesa top. It is an open woodland with total tree cover of 25-50% composed only of short *Juniperus erythrocarpa* trees. *Canotia holocantha* dominates the shrub layer, both in cover and in height. Shorter shrubs are a common component of this association, but are rarely found in high abundance. The herbaceous layer of this community is very open and depauperate. Plot data yields only three herbaceous species with total cover <10%. *Aristida purpurea* and *Bouteloua curtipendula* are common grasses and indicate an affinity of this community with semidesert grasslands.

OTHER NOTEWORTHY SPECIES None

CONSERVATION RANK G3

RANK JUSTIFICATION
This association is restricted geographically to central Arizona. It has been subjected to many land uses that have altered natural processes.

COMMENTS
On the adjacent mesa tops, this association is bordered by the *Larrea tridentata/ Aristida purpurea* association. It borders the bottomland and toe slope associations dominated by *Prosopis velutina*. The surrounding slopes are occupied by the *Canotia holocantha/Aristida purpurea* association, which is very closely affiliated with the *Juniperis erythrocarpa—Canotia holocantha* association. These two associations may be a complex of communities that are structural stages of a single community type or of two different types than distinguished here. Detailed vegetation studies on the influence of both livestock grazing and fire are needed to decipher the ecological relationships among species and community dynamics. Although fire in desert grasslands is under more local control than in mesic grasslands, alteration of natural fire frequencies, direct fire suppression efforts, or reduction of fuel through grazing, has lead to woody invasion into grasslands throughout the southwest (Archer, S. 1994).

REFERENCES

Archer, S. 1994. Woody Plant Encroachment into Southwestern Grasslands and Savannas: Patterns and Proximate Causes. 13-68pp. IN: Vavra, Laycock and Pieper (EDS). Ecological Implications of Livestock Herbivory in the West. Society for Range Management. Denver, CO.

Bassett, D., M. Larson, and W. Moir. 1987. Forest and Woodland Habitat Types (Plant Associations) of Arizona South of the Mogollon Rim and Southwestern New Mexico. Edition 2. Southwestern Regional Office. Albuquerque, New Mexico.

Reichenbacher, F.W. 1983. Plant Communities of Arizona. Report to Arizona Natural Heritage Program. Tucson, AZ.